

Before the  
**Federal Communications Commission**  
Washington DC 20554

In the Matter of	)	
	)	
Revision of Part 15 of the Commission's Rules	)	ET Docket 98-153
Regarding Ultra-Wideband Transmission	)	
Systems	)	

**REPLY TO OPPOSITION TO  
PETITIONS FOR RECONSIDERATION  
OF THE  
GROUND PENETRATING RADAR INDUSTRY COALITION**

August 13, 2002

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**REPLY TO OPPOSITION TO  
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Pursuant to Section 1.429(g) of the Commission's Rules, the Ground Penetrating Radar Industry Coalition (GPRIC) hereby replies to the Consolidated Opposition to, and Comments in Support of, Petitions for Reconsideration of U.S. GPS Industry Council (filed July 31, 2002) (GPSIC Opposition).

***Scope.*** GPRIC here replies only to points raised by GPSIC in opposition to our own petition.<sup>1</sup> Beyond noting that we support the Petition for Partial Reconsideration of the GPR Service Providers Coalition (filed June 17, 2002), and except as otherwise indicated, we take no position on issues relating to reconsideration petitions filed by others, or oppositions thereto.<sup>2</sup>

***Background.*** GPRIC's Petition sought the rescission of four rules on the ground that the adoption of each had violated the Administrative Procedure Act (APA):

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<sup>1</sup> Petition for Partial Reconsideration of the Ground Penetrating Radar Industry Coalition (filed June 17, 2002) (GPRIC Petition).

<sup>2</sup> In particular, GPRIC takes no position on Comments of AT&T Wireless Services, Inc. on Petitions for Reconsideration (filed July 31, 2002); Comments in Support of Petition for Reconsideration of The Wireless Communications Association International, Inc. (filed July 31, 2002); Opposition of Time Domain Corporation (filed July 31, 2002); or Opposition of the Short Range Automotive Radar Frequency Allocation Group (filed July 31, 2002).

Section 15.525, requiring prior coordination of GPR operation with NTIA;

Section 15.509(b)(1), limiting GPR operation to law enforcement, fire and emergency rescue organizations, scientific research institutes, commercial mining companies, and construction companies;

Section 15.509(d), setting emissions limits for GPRs well below the Part 15 general limits; and

Section 15.509(a), requiring all of a GPR's "UWB bandwidth" to lie below 960 MHz.

We take up each of these provisions in turn.

**A. Coordination**

***GPRIC Petition.*** Section 15.525 requires prior coordination of GPR operation with NTIA. The Commission adopted this rule without any notice and comment, in violation of the APA, and also without any support in the record.<sup>3</sup> GPRIC additionally noted the coordination requirement was contrary to the public interest in potentially delaying urgent operations, and that it would constitute an administrative burden, requiring 100,000 distinct coordinations annually.<sup>4</sup>

***GPSIC Opposition.*** GPSIC claims the coordination rule complies with the APA as a "logical outgrowth" of two references in the Notice of Proposed Rule Making.<sup>5</sup> On the public interest issues, GPSIC argues that the Commission will permit notification in lieu of coordination in an emergency; that coordination will not be an administrative burden (although GPSIC does

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<sup>3</sup> GPRIC Petition at 9-13.

<sup>4</sup> GPRIC Petition at 15-16.

<sup>5</sup> GPSIC Opposition at 12.

not refute GPRIC's numbers); and that interfering UWB imaging systems would be difficult to locate in the absence of coordination.<sup>6</sup>

***GPRIC Reply.*** The Notice in this proceeding did not fairly alert the public that a rule requiring coordination with NTIA was under consideration. The two references pointed out by GPSIC mention a coordination requirement *in a waiver* granted three years ago for devices out of compliance with the Rules,<sup>7</sup> and a *party's* (not the Commission's) suggestion for coordination solely of *over-powered* UWB devices.<sup>8</sup> Neither of these remotely meets the APA requirement for "sufficient detail on [a proposed rule's] content and basis in law to allow for meaningful and informed comment."<sup>9</sup>

GPSIC does not dispute that the Commission adopted this rule despite a complete lack of support in the record.

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<sup>6</sup> GPSIC Opposition at 11.

<sup>7</sup> *Ultra-Wideband Transmission Systems*, 15 FCC Rcd 12086 at para. 6 (2000) (Notice of Proposed Rule Making).

<sup>8</sup> *Id.* at para. 17.

<sup>9</sup> *American Medical Ass'n v. Reno*, 57 F.3d 1129, 1132 (D.C. Cir. 1995) (remanding for adequate notice and comment). *See Connecticut Light and Power Co. v. Nuclear Regulatory Comm'n*, 673 F.2d 525, 530 (D.C. Cir. 1982) (notice must provide accurate picture of reasoning that led agency to proposed rule); *cert. denied*, 459 U.S. 835 (1982); *Home Box Office, Inc. v. FCC*, 567 F.2d 9, 55 (D.C. Cir. 1977) (notice must provide sufficient information to permit "adversarial critique"), *cert. denied*, 434 U.S. 829 (1977).

A recent Order has partially eased the administrative burdens that earlier concerned GPRIC.<sup>10</sup> But even a relatively unburdensome rule cannot be allowed to stand if adopted in violation of the APA .

## **B. Operating Limitations**

***GPRIC Petition.*** Section 15.509(b)(1) limits GPR operation to law enforcement, fire and emergency rescue organizations, scientific research institutes, commercial mining companies, and construction companies. The Commission adopted this rule without notice and comment, and without any support in the record, in violation of the APA.<sup>11</sup> GPRIC noted that the list of permissible operators omits a large majority of legitimate uses, including safety-critical applications such as testing the integrity of nuclear plants, and inspecting dams and airport runways for soundness. Also omitted are federal, state, and local transportation departments, and the professional firms that provide them with GPR services.<sup>12</sup>

***GPSIC Opposition.*** GPSIC fears that easing restrictions on who may operate GPRs will lead to proliferation, which in turn will pose unacceptable risks of interference into GPS bands.<sup>13</sup>

***GPRIC Reply.*** GPSIC does not point to any notice that would cure the APA defect in this rule. And again, GPSIC does not dispute a complete lack of support in the record.

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<sup>10</sup> *Ultra-Wideband Transmission Systems*, ET Docket No. 98-153, Order, DA 02-1658 at para. 6 (released July 12, 2002) (July 12 Order).

<sup>11</sup> GPRIC Petition at 9-13.

<sup>12</sup> GPRIC Petition at 14.

<sup>13</sup> GPSIC Opposition at 14. GPSIC also contends that eliminating user restrictions would add to coordination burdens. *Id.* As noted above, this is less of a concern than formerly.

GPSIC's fears of both proliferation and interference are unrealistic. Long experience proves GPRs do not interfere with GPS.<sup>14</sup> And GPR emissions cannot aggregate;<sup>15</sup> but even if they could, there would never be demand for GPR services to place significant numbers of units in close proximity. In fact, doing so would degrade GPR performance.

Again, although the July 12 Order interprets the rule to accommodate more users, that cannot legitimize a rule that fails to comply with APA requirements.<sup>16</sup>

### **C. Emissions Limits**

***GPRIC Petition.*** Section 15.509(d) sets emissions limits for GPRs well below the Part 15 general limits. The Commission adopted those limits contrary to all of the relevant evidence in the record.<sup>17</sup> GPRIC noted further that long experience shows GPRs operating at or near the Part 15 general limits have no effect on GPS operation.<sup>18</sup>

***GPSIC Opposition.*** GPSIC asks the Commission to retain the present limits pending testing.<sup>19</sup> GPSIC calls "absurd" the claim that no evidence of harm from GPRs exists, asserting that lack of evidence results from lack of testing.<sup>20</sup>

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<sup>14</sup> GPRIC Petition at 8. See also Part C below.

<sup>15</sup> Even through GPR emissions may add in principle, in practice they fall off so quickly with distance that there is little signal to add.

<sup>16</sup> Nevertheless, GPRIC would not contest a rule that limits GPR operation to parties eligible for licensing under the provisions of Part 90 of the FCC's rules, thus eliminating sales to consumers. See GPRIC Petition at 15.

<sup>17</sup> GPRIC Petition at 16-17.

<sup>18</sup> GPRIC Petition at 8.

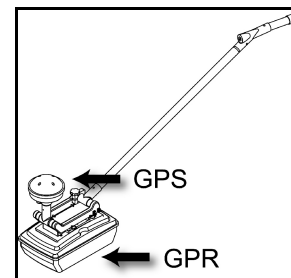
<sup>19</sup> GPSIC Opposition at 9-10.

<sup>20</sup> GPSIC Opposition at 17 n.49.

***GPRIC Reply.*** GPSIC does not dispute a complete lack of support in the record.

Moreover, tests of interference from GPRs into GPS have been conducted every working day for years. Many GPR systems routinely operate with a GPS receiver fixed directly to the unit. (See Figure 1.)

Nearly all GPR systems have both hardware and software specifically designed to accommodate GPS, which is needed for mapping locations of the GPR readings. And most legacy GPR equipment operates at or



**GPR with Mounted GPS**

**Figure 1**

near the Part 15 general limits. Yet the GPS invariably functions perfectly, just centimeters from the GPR transmit antenna. Claims that GPRs at the general limits could interfere with other GPS receivers, tens or hundreds of meters away, are simply not credible.<sup>21</sup>

#### **D. UWB Bandwidth**

***GPRIC Petition.*** Section 15.509(a) requires all of a GPR's "UWB bandwidth" to lie below 960 MHz. (The UWB bandwidth is the frequency band between the frequencies at which the emissions are 10 dB below the highest radiated emission.<sup>22</sup>) The Commission adopted that

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<sup>21</sup> GPSIC also disputes the GPR Service Providers' contention that GPR emissions are unintentional (and hence can safely be set to Class B) on the ground that the emissions are necessary to the devices' intended function. GPSIC Opposition at 10. We disagree. The *airborne* emissions from a GPR -- the only ones that could conceivably affect GPS -- are both unintentional and unnecessary. GPRIC has explained that manufacturers deliberately suppress airborne emissions -- not just to limit interference, but because any emissions not coupled into the ground tend to impair performance. GPRIC Petition at 7.

GPR airborne emissions thus meet GPSIC's own test for unintentional emissions -- that they can "readily be cured at the source." GPSIC Opposition at 10. In principle the emissions can be made as low as desired. The floor is set only by engineering considerations of size and weight.

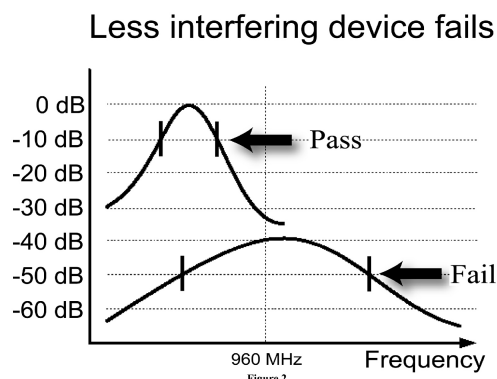
<sup>22</sup> 47 C.F.R. Sec. 15.503(a).

rule without any support in the record. GPRIC noted further that this rule yields the irrational result of *disqualifying* certain devices having far lower interference potential than devices that pass.<sup>23</sup>

**GPSIC Opposition.** GPSIC opposes changing the UWB bandwidth rule on the ground that doing so would contradict Commission policy of protecting public safety services, and because co-frequency operation of GPR and GPS is infeasible and cannot responsibly be permitted.<sup>24</sup>

**GPRIC Reply.** GPSIC is confusing doctrine with reality. As the diagram shows, the contested rule can block emissions that are *far safer* for GPS than emissions that pass. The rule arbitrarily eliminates any UWB bandwidth that extends above 960 MHz -- no matter how low the emissions are. The rule serves no

purpose whatsoever, in light of the well-defined emissions mask. It adds no protection to GPS, while hindering valuable GPR applications. The rule is simply irrational.



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<sup>23</sup> GPRIC Petition at 17-19.

<sup>24</sup> GPSIC Opposition at 17.



## **CONCLUSION**

Nothing in the GPSIC Opposition fairly counters GPRIC's showing that the contested rules were adopted in violation of the APA. And GPSIC has likewise failed to demonstrate that a grant of reconsideration could conceivably have any adverse impact on GPS. The Commission should grant the reconsideration requested by GPRIC.

Respectfully submitted,

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August 13, 2002

**CERTIFICATE OF SERVICE**

I, Deborah N. Lunt, a secretary for the law firm of Fletcher, Heald & Hildreth, P.L.C., hereby certify that a true copy of the foregoing “Reply to Opposition to Petitions for Reconsideration” was sent this 13<sup>st</sup> day of August, 2002 via first class, United States mail, postage prepaid to the attached Service List, except by hand delivery and e-mail as indicated.

Deborah N. Lunt

**\*Denotes Hand Delivery and E-mail**

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